Building a US National Park Service
Online Base Map

Mamata Akella

NPMap

NPMap

Who we are

- Build, maintain, and support a JavaScript web mapping library (NPMap)

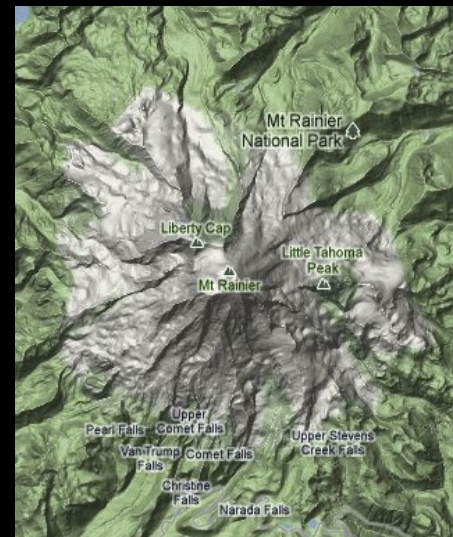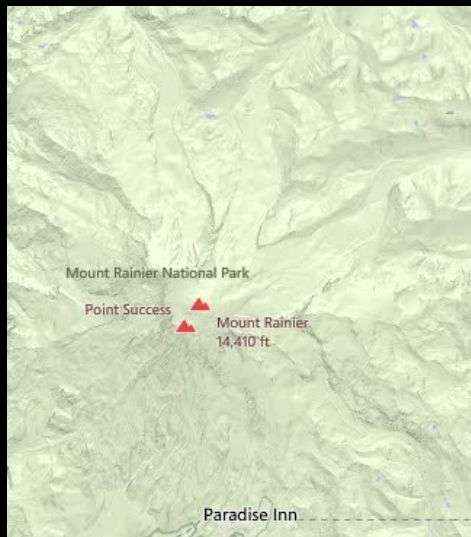- Design and develop project specific web maps

- GIS Server and data management

Online Basemaps

What we currently use

- Current Basemaps
  - Bing, Esri, Google, MapBox

NPS Styled Online Basemap

Why we're building it

- An online basemap that has the "look and feel" of the NPS brand

  - Transfer NPS printed park map cartography to the web

  - Build a basemap that can be used by visitors and for NPS specific web applications

  - At large scales, display detailed park data

Data

Data and the NPS

- Data + National Park Service

  - Data store, some internal data collection projects underway (trails, poi's)

- Data + Harpers Ferry Center

  - Printed map products, starting to move to a GIS system

- Data + Individual Parks

  - Data collection not standardized, no staff available to collect data

- Base data

  - Looking into openly available sources to use in our products

Data

What we're using

Data Source			
🟩	National Park Service	🟨	OpenStreetMap
🟪	Natural Earth	🟧	US Census Bureau
🟦	NASA	🟥	NOAA
🟦	USGS	⬜	Under consideration

Map Features	Zoom level										
	4	5	6	7	8	9	10	11	12	13	14
National Park Units											
Boundaries											
State/Country Labels											
City Labels											
Urban Areas											
Hydrography											
Hydro Labels											
Coastline											
Roads											
Shields/Road Labels											
Trails											
Points of Interest											
Shaded Relief											

Technology

## How we're building our map

- Data Management/Processing
  - osm2pgsql > PostGIS (looking into Imposm)
    - High Roads
  - SQLite, Shapefile
  - QGIS
- Design
  - TileMill (basemap design)
  - Dymo (labeling at smaller scales)
  - InkScape (marker symbol design)
  - ArcGIS (vignettes)
  - Natural Scene Designer/Adobe Photoshop (relief)
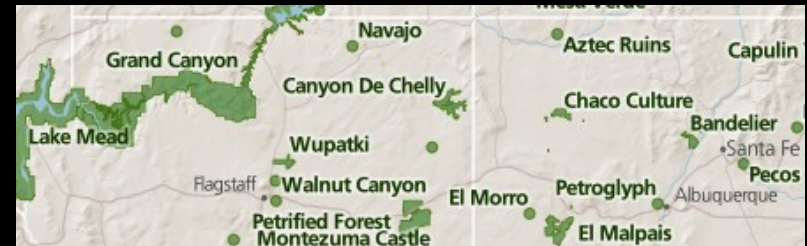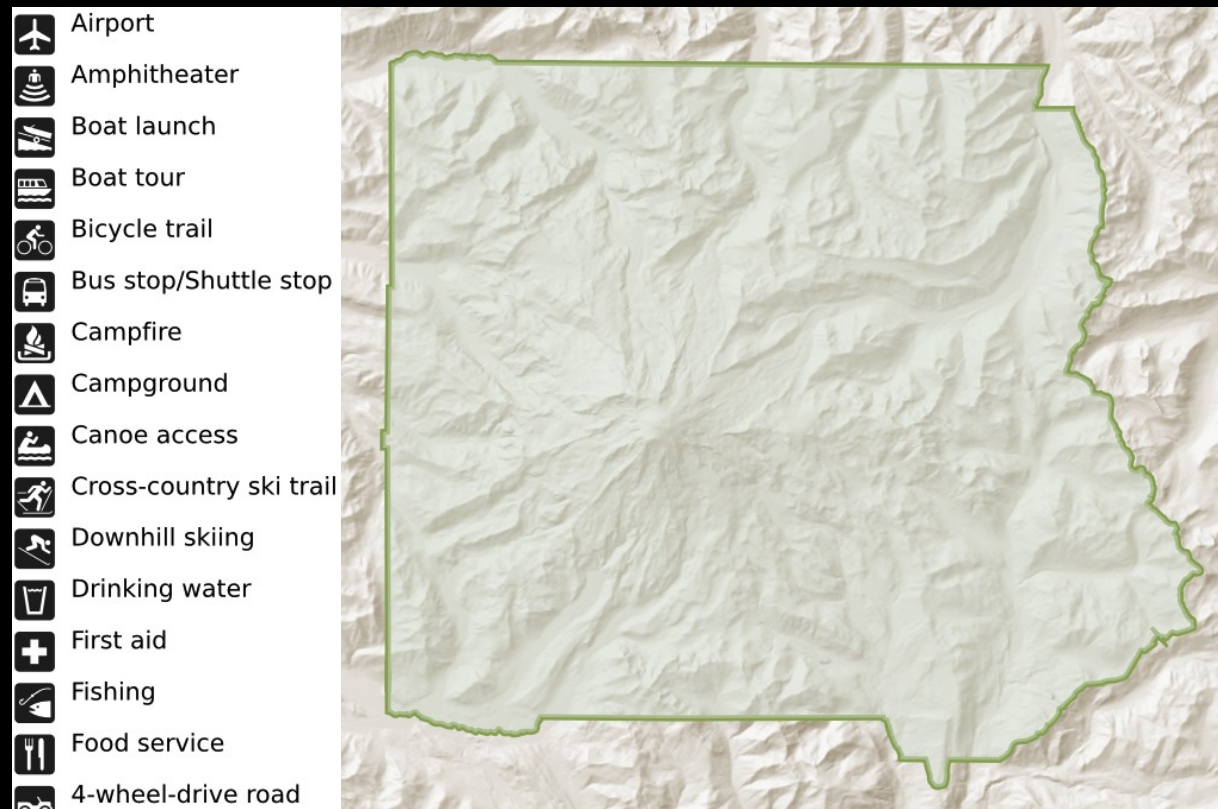
Technology

How we're serving our map

- Serving
  - TileStream and our NPMap JavaScript library
- Overlay patterns
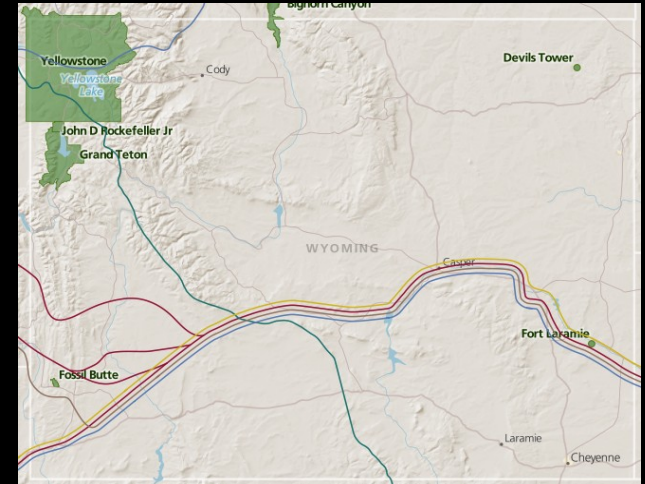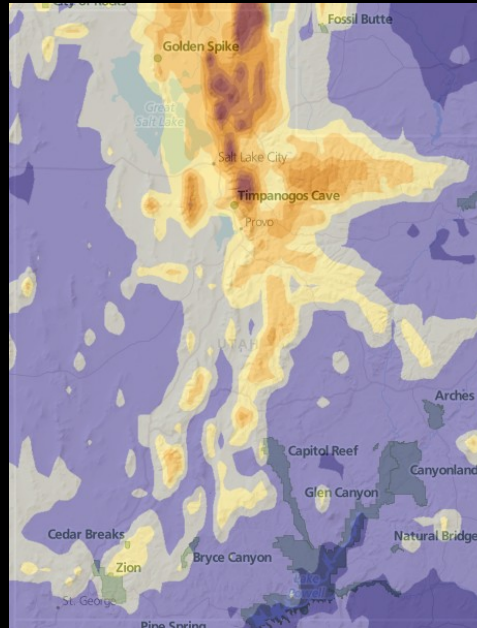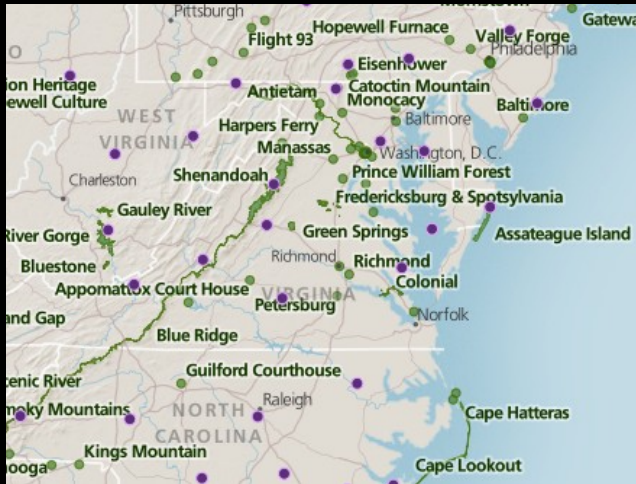
Future Work

Data collection

- NPS OSM Editor
  - Work with Park Service employees, volunteers, and OSM data contributors
  - NPS specific tags/review process

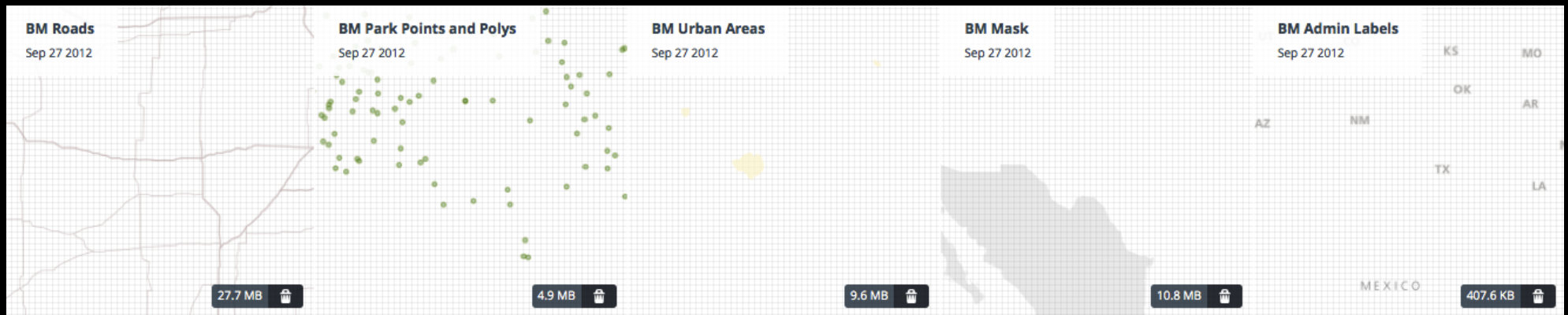# Future Work

Multi-scale cartography

- More than just the area of a feature

- Significance to the National Park

- Add hierarchy for POI's, trails

- Introduce features (and labels) through scale using an "importance" attribute
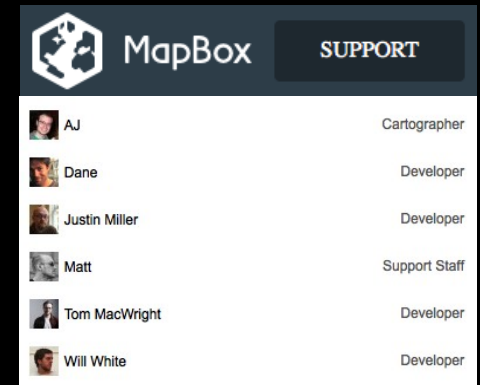
Resources

NPMap

- NPMap Website

  - www.nps.gov/npmap

- Follow us on Twitter

  - @npmap

- Use our tiles

  - tiles.mapbox.com/nps

Appreciation

Thanks for your help!

Questions?

Thank you!

mamata_akella@partner.nps.gov

@mamataakella